

(Mar. 3, 1901, ch. 872, §26, as added Pub. L. 100-418, title V, §5121(a), Aug. 23, 1988, 102 Stat. 1435.)

#### TECHNOLOGY EXTENSION SERVICES

Pub. L. 100-418, title V, §5121(b), (c), Aug. 23, 1988, 102 Stat. 1436, 1437, as amended by Pub. L. 102-245, title I, §105(d), Feb. 14, 1992, 106 Stat. 12, provided that:

“(b) TECHNOLOGY EXTENSION SERVICES.—(1) The Secretary shall conduct a nationwide study of current State technology extension services. The study shall include—

“(A) a thorough description of each State program, including its duration, its annual budget, and the number and types of businesses it has aided;

“(B) a description of any anticipated expansion of each State program and its associated costs;

“(C) an evaluation of the success of the services in transferring technology, modernizing manufacturing processes, and improving the productivity and profitability of businesses;

“(D) an assessment of the degree to which State services make use of Federal programs, including the Small Business Innovative Research program and the programs of the Federal Laboratory Consortium, the National Technical Information Service, the National Science Foundation, the Office of Productivity, Technology, and Innovation, and the Small Business Administration;

“(E) a survey of what additional Federal information and technical assistance the services could utilize; and

“(F) an assessment of how the services could be more effective agents for the transfer of Federal scientific and technical information, including the results and application of Federal and federally funded research.

The Secretary shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, at the time of submission of the organization plan for the Institute under section 5112(d)(1) [of Pub. L. 100-418, set out as a note under section 272 of this title], the results of the study and an initial implementation plan for the programs under section 26 of the Act of March 3, 1901 [15 U.S.C. 278l], and under this section [enacting sections 278k to 278m of this title]. The implementation plan shall include methods of providing technical assistance to States and criteria for awarding financial assistance under this section. The Secretary may make use of contractors and experts for any or all of the studies and findings called for in this section.

“(2)(A) The Institute shall enter into cooperative agreements with State technology extension services to—

“(i) demonstrate methods by which the States can, in cooperation with Federal agencies, increase the use of Federal technology by businesses within their States to improve industrial competitiveness; or

“(ii) help businesses in their States take advantage of the services and information offered by the Regional Centers for the Transfer of Manufacturing Technology created under section 25 of the Act of March 3, 1901 [15 U.S.C. 278k].

“(B) Any State, for itself or for a consortium of States, may submit to the Secretary an application for a cooperative agreement under this subsection, in accordance with procedures established by the Secretary. To qualify for a cooperative agreement under this subsection, a State shall provide adequate assurances that it will increase its spending on technology extension services by an amount at least equal to the amount of Federal assistance.

“(C) In evaluating each application, the Secretary shall consider—

“(i) the number and types of additional businesses that will be assisted under the cooperative agreement;

“(ii) the extent to which the State extension service will demonstrate new methods to increase the use of Federal technology;

“(iii) geographic diversity; and

“(iv) the ability of the State to maintain the extension service after the cooperative agreement has expired.

“(D) States which are party to cooperative agreements under this subsection may provide services directly or may arrange for the provision of any or all of such services by institutions of higher education or other non-profit institutions or organizations.

“(3) In carrying out section 26 of the Act of March 3, 1901 [15 U.S.C. 278l], and this subsection, the Secretary shall coordinate the activities with the Federal Laboratory Consortium; the National Technical Information Service; the National Science Foundation; the Office of Productivity, Technology, and Innovation; the Small Business Administration; and other appropriate Federal agencies.

“(4) There are authorized to be appropriated for the purposes of this subsection \$2,000,000 for each of the fiscal years 1989, 1990, and 1991.

“(c) FEDERAL TECHNOLOGY TRANSFER ACT OF 1986.—Nothing in sections [sic] 25 or 26 of the Act of March 3, 1901 [15 U.S.C. 278k, 278l], or in subsection (b) of this section shall be construed as limiting the authorities contained in the Federal Technology Transfer Act of 1986 (Public Law 99-502) [see Short Title of 1986 Amendments note set out under section 3701 of this title].”

#### § 278m. Repealed. Pub. L. 110-69, title III, § 3013(d), Aug. 9, 2007, 121 Stat. 599

Section, act Mar. 3, 1901, ch. 872, §27, as added Pub. L. 100-418, title V, §5121(d), Aug. 23, 1988, 102 Stat. 1437, related to the establishment of a program for the evaluation of non-energy inventions.

#### § 278n. Technology Innovation Program

##### (a) Establishment

There is established within the Institute a program linked to the purpose and functions of the Institute, to be known as the “Technology Innovation Program” for the purpose of assisting United States businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutions, to support, promote, and accelerate innovation in the United States through high-risk, high-reward research in areas of critical national need.

##### (b) External funding

###### (1) In general

The Director shall award competitive, merit-reviewed grants, cooperative agreements, or contracts to—

(A) eligible companies that are small-sized businesses or medium-sized businesses; or

(B) joint ventures.

###### (2) Single company awards

No award given to a single company shall exceed \$3,000,000 over 3 years.

###### (3) Joint venture awards

No award given to a joint venture shall exceed \$9,000,000 over 5 years.

###### (4) Federal cost share

The Federal share of a project funded by an award under the program shall not be more than 50 percent of total project costs.

###### (5) Prohibitions

Federal funds awarded under this program may be used only for direct costs and not for

indirect costs, profits, or management fees of a contractor. Any business that is not a small-sized or medium-sized business may not receive any funding under this program.

**(c) Award criteria**

The Director shall only provide assistance under this section to an entity—

(1) whose proposal has scientific and technical merit and may result in intellectual property vesting in a United States entity that can commercialize the technology in a timely manner;

(2) whose application establishes that the proposed technology has strong potential to address critical national needs through transforming the Nation's capacity to deal with major societal challenges that are not currently being addressed, and generate substantial benefits to the Nation that extend significantly beyond the direct return to the applicant;

(3) whose application establishes that the research has strong potential for advancing the state-of-the-art and contributing significantly to the United States science and technology knowledge base;

(4) whose proposal explains why Technology Innovation Program support is necessary, including evidence that the research will not be conducted within a reasonable time period in the absence of financial assistance under this section;

(5) whose application demonstrates that reasonable efforts have been made to secure funding from alternative funding sources and no other alternative funding sources are reasonably available to support the proposal; and

(6) whose application explains the novelty of the technology and demonstrates that other entities have not already developed, commercialized, marketed, distributed, or sold similar technologies.

**(d) Competitions**

The Director shall solicit proposals at least annually to address areas of critical national need for high-risk, high-reward projects.

**(e) Intellectual property rights ownership**

**(1) In general**

Title to any intellectual property developed by a joint venture from assistance provided under this section may vest in any participant in the joint venture, as agreed by the members of the joint venture, notwithstanding section 202(a) and (b) of title 35. The United States may reserve a nonexclusive, nontransferable, irrevocable paid-up license, to have practice for or on behalf of the United States in connection with any such intellectual property, but shall not in the exercise of such license publicly disclose proprietary information related to the license. Title to any such intellectual property shall not be transferred or passed, except to a participant in the joint venture, until the expiration of the first patent obtained in connection with such intellectual property.

**(2) Licensing**

Nothing in this subsection shall be construed to prohibit the licensing to any com-

pany of intellectual property rights arising from assistance provided under this section.

**(3) Definition**

For purposes of this subsection, the term “intellectual property” means an invention patentable under title 35, or any patent on such an invention, or any work for which copyright protection is available under title 17.

**(f) Program operation**

Not later than 9 months after August 9, 2007, the Director shall promulgate regulations—

(1) establishing criteria for the selection of recipients of assistance under this section;

(2) establishing procedures regarding financial reporting and auditing to ensure that awards are used for the purposes specified in this section, are in accordance with sound accounting practices, and are not funding existing or planned research programs that would be conducted within a reasonable time period in the absence of financial assistance under this section; and

(3) providing for appropriate dissemination of Technology Innovation Program research results.

**(g) Continuation of ATP grants**

The Director shall, through the Technology Innovation Program, continue to provide support originally awarded under the Advanced Technology Program, in accordance with the terms of the original award and consistent with the goals of the Technology Innovation Program.

**(h) Coordination with other State and Federal technology programs**

In carrying out this section, the Director shall, as appropriate, coordinate with other senior State and Federal officials to ensure cooperation and coordination in State and Federal technology programs and to avoid unnecessary duplication of efforts.

**(i) Acceptance of funds from other Federal agencies**

In addition to amounts appropriated to carry out this section, the Secretary and the Director may accept funds from other Federal agencies to support awards under the Technology Innovation Program. Any award under this section which is supported with funds from other Federal agencies shall be selected and carried out according to the provisions of this section. Funds accepted from other Federal agencies shall be included as part of the Federal cost share of any project funded under this section.

**(j) TIP Advisory Board**

**(1) Establishment**

There is established within the Institute a TIP Advisory Board.

**(2) Membership**

**(A) In general**

The TIP Advisory Board shall consist of 10 members appointed by the Director, at least 7 of whom shall be from United States industry, chosen to reflect the wide diversity of technical disciplines and industrial sectors

represented in Technology Innovation Program projects. No member shall be an employee of the Federal Government.

**(B) Term**

Except as provided in subparagraph (C) or (D), the term of office of each member of the TIP Advisory Board shall be 3 years.

**(C) Classes**

The original members of the TIP Advisory Board shall be appointed to 3 classes. One class of 3 members shall have an initial term of 1 year, one class of 3 members shall have an initial term of 2 years, and one class of 4 members shall have an initial term of 3 years.

**(D) Vacancies**

Any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term.

**(E) Serving consecutive terms**

Any person who has completed 2 consecutive full terms of service on the TIP Advisory Board shall thereafter be ineligible for appointment during the 1-year period following the expiration of the second such term.

**(3) Purpose**

The TIP Advisory Board shall meet not less than 2 times annually, and provide the Director—

(A) advice on programs, plans, and policies of the Technology Innovation Program;

(B) reviews of the Technology Innovation Program's efforts to accelerate the research and development of challenging, high-risk, high-reward technologies in areas of critical national need;

(C) reports on the general health of the program and its effectiveness in achieving its legislatively mandated mission; and

(D) guidance on investment areas that are appropriate for Technology Innovation Program funding;<sup>1</sup>

**(4) Advisory capacity**

In discharging its duties under this subsection, the TIP Advisory Board shall function solely in an advisory capacity, in accordance with the Federal Advisory Committee Act.

**(k) Definitions**

In this section—

(1) the term “eligible company” means a small-sized or medium-sized business that is incorporated in the United States and does a majority of its business in the United States, and that either—

(A) is majority owned by citizens of the United States; or

(B) is owned by a parent company incorporated in another country and the Director finds that—

(i) the company's participation in the Technology Innovation Program would be in the economic interest of the United States, as evidenced by—

(I) investments in the United States in research and manufacturing;

(II) significant contributions to employment in the United States; and

(III) agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting from that technology; and

(ii) the company is incorporated in a country which—

(I) affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those receiving funding under this section;

(II) affords to United States-owned companies local investment opportunities comparable to those afforded any other company; and

(III) affords adequate and effective protection for intellectual property rights of United States-owned companies;

(2) the term “high-risk, high-reward research” means research that—

(A) has the potential for yielding transformational results with far-ranging or wide-ranging implications;

(B) addresses critical national needs within the National Institute of Standards and Technology's areas of technical competence; and

(C) is too novel or spans too diverse a range of disciplines to fare well in the traditional peer-review process;

(3) the term “institution of higher education” has the meaning given that term in section 1001 of title 20;

(4) the term “joint venture” means a joint venture that—

(A) includes either—

(i) at least 2 separately owned for-profit companies that are both substantially involved in the project and both of which are contributing to the cost-sharing required under this section, with the lead entity of the joint venture being one of those companies that is a small-sized or medium-sized business; or

(ii) at least 1 small-sized or medium-sized business and 1 institution of higher education or other organization, such as a national laboratory or nonprofit research institute, that are both substantially involved in the project and both of which are contributing to the cost-sharing required under this section, with the lead entity of the joint venture being either that small-sized or medium-sized business or that institution of higher education; and

(B) may include additional for-profit companies, institutions of higher education, and other organizations, such as national laboratories and nonprofit research institutes, that may or may not contribute non-Federal funds to the project; and

(5) the term “TIP Advisory Board” means the advisory board established under subsection (j).

<sup>1</sup> So in original. The semicolon probably should be a period.

(Mar. 3, 1901, ch. 872, §28, as added Pub. L. 110-69, title III, §3012(b), Aug. 9, 2007, 121 Stat. 593; amended Pub. L. 113-188, title II, §201(d), (e), Nov. 26, 2014, 128 Stat. 2018.)

#### REFERENCES IN TEXT

The Federal Advisory Committee Act, referred to in subsec. (j)(4), is Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 770, which is set out in the Appendix to Title 5, Government Organization and Employees.

#### PRIOR PROVISIONS

A prior section 278n, act Mar. 3, 1901, ch. 872, §28, as added Pub. L. 100-418, title V, §5131(a), Aug. 23, 1988, 102 Stat. 1439; amended Pub. L. 102-245, title II, §201(c), Feb. 14, 1992, 106 Stat. 16, related to the Advanced Technology Program, prior to repeal by Pub. L. 110-69, title III, §3012(a), Aug. 9, 2007, 121 Stat. 593.

#### AMENDMENTS

2014—Subsecs. (g) to (j). Pub. L. 113-188, §201(d)(1), (2), redesignated subsecs. (h) to (k) as (g) to (j), respectively, and struck out former subsec. (g) which required annual reports describing the Technology Innovation Program's activities.

Subsec. (j)(5). Pub. L. 113-188, §201(e), struck out par. (5) which related to annual Technology Innovation Program status reports transmitted by the TIP Advisory Board.

Subsec. (k). Pub. L. 113-188, §201(d)(2), redesignated subsec. (l) as (k). Former subsec. (k) redesignated (j).

Subsec. (k)(5). Pub. L. 113-188, §201(d)(3), substituted “under subsection (j)” for “under subsection (k)”.

Subsec. (l). Pub. L. 113-188, §201(d)(2), redesignated subsec. (l) as (k).

#### TECHNOLOGY INNOVATION PROGRAM

Pub. L. 111-240, title IV, §4226(b), Sept. 27, 2010, 124 Stat. 2598, provided that: “In awarding grants, cooperative agreements, or contracts under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), in addition to the award criteria set forth in subsection (c) of that section, the Director of the National Institute of Standards and Technology may take into consideration whether an application has significant potential for enhancing the competitiveness of small- and medium-sized businesses in the United States in the global marketplace. The Director shall consult with the Technology Innovation Program Advisory Board and the Secretary of Commerce in implementing this subsection.”

#### TRANSITION

Pub. L. 110-69, title III, §3012(c), Aug. 9, 2007, 121 Stat. 598, provided that: “Notwithstanding the repeal made by subsection (a) [repealing former section 278n of this title], the Director shall carry out section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) as such section was in effect on the day before the date of the enactment of this Act [Aug. 9, 2007], with respect to applications for grants under such section submitted before such date, until the earlier of—

“(1) the date that the Director promulgates the regulations required under section 28(f) of the National Institute of Standards and Technology Act [15 U.S.C. 278n(f)], as added by subsection (b) [Final regulations implementing the Technology Innovation Program issued June 25, 2008. See 73 F.R. 35913.]; or

“(2) December 31, 2007.”

#### NATIONAL ACADEMIES OF SCIENCES AND ENGINEERING STUDY OF GOVERNMENT-INDUSTRY COOPERATION IN CIVILIAN TECHNOLOGY

Pub. L. 100-418, title V, §5131(c), Aug. 23, 1988, 102 Stat. 1443, directed the Secretary of Commerce, within 90 days after Aug. 23, 1988, to enter into contracts with the National Academies of Sciences and Engineering to review the various types of cooperative arrangements

between the private sector and the Federal Government and required a report based on the review to be submitted to the Secretary, the President, and Congress within 18 months after the contracts were signed.

#### §278n-1. Emergency communication and tracking technologies research initiative

##### (a) Establishment

The Director shall establish a research initiative to support the development of emergency communication and tracking technologies for use in locating trapped individuals in confined spaces, such as underground mines, and other shielded environments, such as high-rise buildings or collapsed structures, where conventional radio communication is limited.

##### (b) Activities

In order to carry out this section, the Director shall work with the private sector and appropriate Federal agencies to—

(1) perform a needs assessment to identify and evaluate the measurement, technical standards, and conformity assessment needs required to improve the operation and reliability of such emergency communication and tracking technologies;

(2) support the development of technical standards and conformance architecture to improve the operation and reliability of such emergency communication and tracking technologies; and

(3) incorporate and build upon existing reports and studies on improving emergency communications.

##### (c) Report

Not later than 18 months after January 4, 2011, the Director shall submit to Congress and make publicly available a report describing the assessment performed under subsection (b)(1) and making recommendations about research priorities to address gaps in the measurement, technical standards, and conformity assessment needs identified by the assessment.

(Pub. L. 111-358, title IV, §405, Jan. 4, 2011, 124 Stat. 4003.)

#### CODIFICATION

Section was enacted as part of the America COMPETES Reauthorization Act of 2010, also known as the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010, and as part of the National Institute of Standards and Technology Authorization Act of 2010, and not as part of the National Institute of Standards and Technology Act which comprises this chapter.

#### DEFINITIONS

Pub. L. 111-358, title IV, §409, Jan. 4, 2011, 124 Stat. 4004, provided that: “In this title [enacting this section and sections 273a and 278n-2 of this title, amending sections 274, 278g-1, 278g-2, 278g-2a, and 278k of this title and sections 5314 and 5315 of Title 5, Government Organization and Employees, and repealing section 1533 of this title and provisions set out as a note under section 278k of this title]:

“(1) DIRECTOR.—The term ‘Director’ means the Director of the National Institute of Standards and Technology.

“(2) FEDERAL AGENCY.—The term ‘Federal agency’ has the meaning given such term in section 4 of the